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Proceeding with caution when diabetes patients want LASIK

by Vanessa Caceres Eyeworld Contributing Writer



LASIK flap with a surface healing complication

Source: Ming Wang, MD

Refractive surgery is possible, but diabetes must be well controlled

With the growth in prediabetes and diabetes in the U.S.—diabetes affects 9.4% of all Americans, and more than 1 in 3 Americans have prediabetes—eye surgeons have become even more attuned to the challenges of eye health that are associated with diabetes.

Yet diabetes patients aren't coming to eye practices only for eye-related problems like diabetic retinopathy. Some also seek LASIK to see better, and that's when refractive surgeons must proceed with relative caution.

"Patients should know that the longer they have had diabetes, the greater the risk of developing diabetic retinopathy," said Gregory Kent, MD, The Eye Associates, Boise, Idaho. "If they were to lose any visual acuity because of the diabetes, it would limit their benefit of having had LASIK."

"Patients with diabetes should understand that refractive surgery is an elective procedure," said Danielle Trief, MD, assistant professor of ophthalmology, Edward S. Harkness Eye Institute, Columbia University Medical Center, New York. "Both the American Academy of Ophthalmology and the Food and Drug Administration list diabetes as a relative contraindication or warning. Uncontrolled diabetes is an absolute contraindication."

Still, it's reasonable that some patients with diabetes want to see if LASIK is an option for them. Long-term soft contact lens wear may affect the corneal endothelium more in diabetic patients than in patients without diabetes, Dr. Trief said. Therefore, contact lens wear in diabetic patients is not without challenges.

Taking stock

Refractive surgeons should first make sure that the patient's blood sugar is well controlled enough to have LASIK, said Ming Wang, MD, Wang Vision Institute, Nashville,

Tennessee. "They can have fluctuation in prescriptions, meaning their prescription will often temporarily increase until the blood glucose returns to a normal range," Dr. Wang said. Dr. Wang even considers checking a patient's blood glucose while he or she is in the office to see where the number stands.

Dr. Kent likes to learn more about the patient's diabetes history. "I would want to know exactly how long they have had diabetes. I would want to know if their prescription was stable, preferably for years," he said. "It would also be beneficial to know from their primary care physician where their hemoglobin A1c level runs and perhaps if their blood pressure is well controlled."

Dr. Kent also inquires about the patient's previous eyecare history, and he may request old records from other eyecare providers to check for any problems.

If blood sugar is well controlled, the next step is checking for overall ocular health. This includes analyzing corneal sensation to check for any neuropathy, Dr. Trief said. It also includes an analysis of the ocular surface, including for punctate epitheliopathy or signs of dry eye that could get worse after refractive surgery, Dr. Trief said.

"Refractions should be stable, and the patient should not experience transient fluctuations in vision," she said.

Surgeons also will screen for diabetic retinopathy, a contraindication for LASIK. Poorly controlled hypertension along with diabetes is reason enough to not perform surgery, Dr. Kent said.

As for surgery itself, a number of published reports favor LASIK over PRK in patients with diabetes, Dr. Trief said. "PRK requires a large central epithelial defect, and there is concern for impaired wound healing in diabetic patients, which could lead to permanent corneal haze," she said.

Even though from the surgeon's perspective LASIK itself may not differ for someone with diabetes, Dr. Wang will consider placing punctal plugs in the lower drainage system to prevent any absorption of steroid eye drops into the bloodstream, which could cause the blood glucose to elevate. "These are good for any patient, however," he said.

Managing and monitoring for complications

After surgery, patients with diabetes who have had LASIK should know that it may take the surface longer to heal, Dr. Trief said. They also should be closely monitored for infection.

To help minimize exposure to steroid medications, Dr. Wang advises occlusion of the punctum with their fingers when instilling steroid medications to prevent any absorption into the bloodstream, which could cause the blood glucose to elevate.

Corneal hydration is also key. Dr. Wang favors the use of preservative-free artificial tears every 15 minutes while awake during the first week postop and every 30 minutes for the second week postop.

"Dry eye can be more severe in the postop healing period for patients with diabetes, and patients may need additional prescription eye drops to help get through this period," Dr. Wang said.

Although rare, delayed corneal healing could result in small noninfectious ulcers or corneal defects on the eye surface that may need to be treated with additional prescription eye drops or bandage-type contact lenses, Dr. Wang said. **EW**

Editors' note: The physicians have no financial interests related to their comments.

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